

Candidate's Name:

Signature:

Random No.						Personal No.		

(Do not write your School/ Centre name or Number anywhere on this Booklet.)

545/1

CHEMISTRY

Paper 1

JULY / AUGUST 2025

2 hours



STUDY SPHERE EXAMINATION BOARD

Uganda Certificate of Education

CHEMISTRY

Paper 1

2 hours

INSTRUCTIONS TO CANDIDATES:

This paper consists of **two** sections: **A** and **B**.

It has **six** examination items.

Section **A** has **two compulsory** items.

Section **B** has **two** Parts; I and II. Answer **one** item from **each** part.

Answer **four items in all**.

Answers to section **A** **must** be written in the spaces provided while those of section **B** **must** be written on the answer booklet(s) provided.

Any additional item(s) answered will **not** be scored

Use where necessary;

Ca =40, C =12, O =16, 1 mole of a gas occupies 22.4 dm³ at s.t.p

SECTION A (Attempt the items)

Item 1

Grace has been experiencing menstrual cramps for a long time. She always relies on herbal medicine prescribed by her grandmother but she doesn't get a quick relief. Grace feels that she can get better medication from a pharmacy and has approached you since you have knowledge about chemistry.

Task:

As a learner of chemistry;

- a. Identify the best product she can use.

- b. Explain to her the function of the product.

- c. Evaluate the impacts associated with the long term use of the product.

Item 2

In an attempt to explore the relationship between elements, Canary and Peter made research about the periodic table. They noted that relationships between the elements shown by their atomic numbers and electronic configuration govern the chemical and physical properties of elements. They used the information below and failed to understand some concepts about their properties. They have come to you for guidance.

Support Material

Elements	Atomic Number	Mass Number
Lithium	3	7
Sodium	11	23
potassium	19	39

Task:

Use your knowledge of Chemistry;

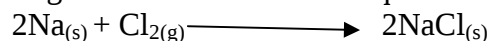
- a. Explain the identity of the elements.

- b. Help them to understand:

- a. The chemical reactions of the element with water.

- b. The predication of the melting points of the elements from lithium, sodium, and potassium.

- c. Provide a methodology approach of obtaining the number of moles of sodium that completely reacted with 2.8dm^3 of chlorine gas at S.t.p, when Canary lowered a piece of burning sodium into gas jar of given volume of gas. Reaction occurs as equation below:



- d. Guide the two students about the challenges associated with use of the element above.

SECTION B

Part 1

Answer only one item from this part in the answer booklet(s) provided

Item 3

In Uganda, copper wires are used mainly for transmitting electric power. To ensure the availability of wires, the government is considering setting up a copper production plant in a certain area. However, the residents of the area need to be sensitized about the industrial processes, social benefits, side effects and how they can be overcome. Your head teacher has been identified to sensitize the residents.

Task:

As a learner of Chemistry, prepare a write-up that your head teacher will use to sensitize the residents.

Item 4

People of Kagadi have got limited supply of soap yet they grow a lot of palm oil plants.

They have knowledge about the manufacture of soap but they have a limited supply of sodium hydroxide which is a raw material for the manufacture of soap.

An organization wants to set up a sodium hydroxide manufacturing factory in the area but they have little knowledge about the process and its impact on the environment.

The organization chairperson has contacted you to give advice on how to manufacture sodium hydroxide and its impact to the people and the environment.

Task:

Prepare a write up you will use upon invitation.

Part II

Answer only one item from this part in the answer booklet(s) provided

Item 5

Peter, the cattle keeper, grazes his cattle on a community land.

During the dry season, he practices bush burning and also takes his cattle to drink water from the community water source. Peter's practices have raised concern in the community.

The area chairperson has organized a meeting to create awareness for Peter and the community.

Task:

As a learner of Chemistry make a write-up of the message the chairperson will present to the community

Item 6

During her School holidays, Eva visited her aunt who works at a stone quarry. She noticed that explosives were being used to blast big rocks to form small stones (aggregates) and there was a lot of dust rising into the air

Besides the social benefits, Eva was concerned about what would happen to the site and community if the activity continued over time.

Task:

As a learner of Chemistry, make a write-up to respond to Eva's concern.

*****END*****